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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/698,890 | 11/03/2003 | Patrick T. McMullen | | 2686 |

7590 04/12/2004

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EXAMINER

COMAS, YAHVEH

ART UNIT PAPER NUMBER

2834

DATE MAILED: 04/12/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/698,890

Applicant(s)

MCMULLEN ET AL.

Examiner

Yahveh Comas

Art Unit

2834

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 03 November 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____.
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: ____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

1. Claim 1-5, 7-11 rejected under 35 U.S.C. 103(a) as being unpatentable over Ifrim WO 01/22560 A1 in view of Syverson U.S. Patent No. 5,710,471.

Ifrim discloses a plurality of permanent magnets (56) in the direction of the longitudinal axis, said permanent magnets (56) having sides tapered to a predetermined angle and a bottom surface, a plurality of rotor poles (58) which can be solid or laminated, extending in the direction of said longitudinal axis, said rotor poles (58) having sides tapered to predetermined angle and a bottom surface, said permanent magnets (56) and rotor poles (58) being positioned adjacent each other in a manner

such the tapered sides of said rotor poles (58) are in contact with the tapered sides of adjacent magnets (56), and a first cap (52) member positioned adjacent a first end of said rotor poles (58) in a manner to retain the rotor poles and the permanent magnets to form an integral subassembly. Ifrim doesn't disclose an elongated member having an outer surface extending in the direction of said longitudinal axis. Ifrim suggest using the typical configuration applied for alternators described in commonly owned U.S. Patent Nos. 5,693,995, 5,710,741, 5,747,909 and 5,753,989 (page 5, lines 6-9).

Syverson discloses a permanent magnet machine comprising a plurality of magnets (302) and rotor poles (306) embedded in a elongated member (304), formed of a non-magnetic material such as aluminum, which forms a hub around the rotor shaft (22). The retainer isolates the magnets magnetically from the hub and holds them securely.

Therefore, it would have been obvious to one having skill in the art at the time the invention was made to provide a permanent magnet machine comprising a plurality of magnets (302) and rotor poles (306) having a non-magnetic elongated member (304) since Ifrim disclosed the rotor configuration applied to alternators described in commonly owned U.S. Patent Nos. 5,693,995, 5,710,741, 5,747,909 and 5,753,989.

Regarding the taper angle of each rotor pole is in a range between approximately 5 to 15 degrees, it would have been obvious to one having ordinary skill in the art at the time the invention was made to taper the rotor poles disclosed by Ifrim in a range between approximately 5 to 15 degrees, in order to optimize performance of the

machine, and because it has been held that merely optimized known dimensions is within the ordinary skill in the art. (See *In re Aller*, 105 USPQ 233.)

2. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ifrim WO 01/22560 A1 in view of Syverson U.S. Patent No. 5,710,471 and in further view of Meisner et al. U.S. Patent No. 4,644,210

Ifrim, as applied above, disclose the claimed invention except for the end cap is shrink fitted onto said rotor poles. However, Meisner disclose the use of a shrink fit of the end cap during the assembly of said end cap (84) in order to reduce the tendency of the end cap to become loose on the shaft due to the rotational forces.

Therefore, it would have been obvious to one having skill in the art at the time the invention was made to shrink said end cap during assembly as disclosed by Meisner since this would have been desirable to reduce the tendency of the end cap to become loose.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Yahveh Comas whose telephone number is (571)272-2020. The examiner can normally be reached on 8am-5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Darren Schuberg can be reached on 571-272-2044. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

YC

KARL TAMAI
PRIMARY EXAMINER

A handwritten signature in black ink, appearing to read 'Karl Tamai', is written over the printed name and title.